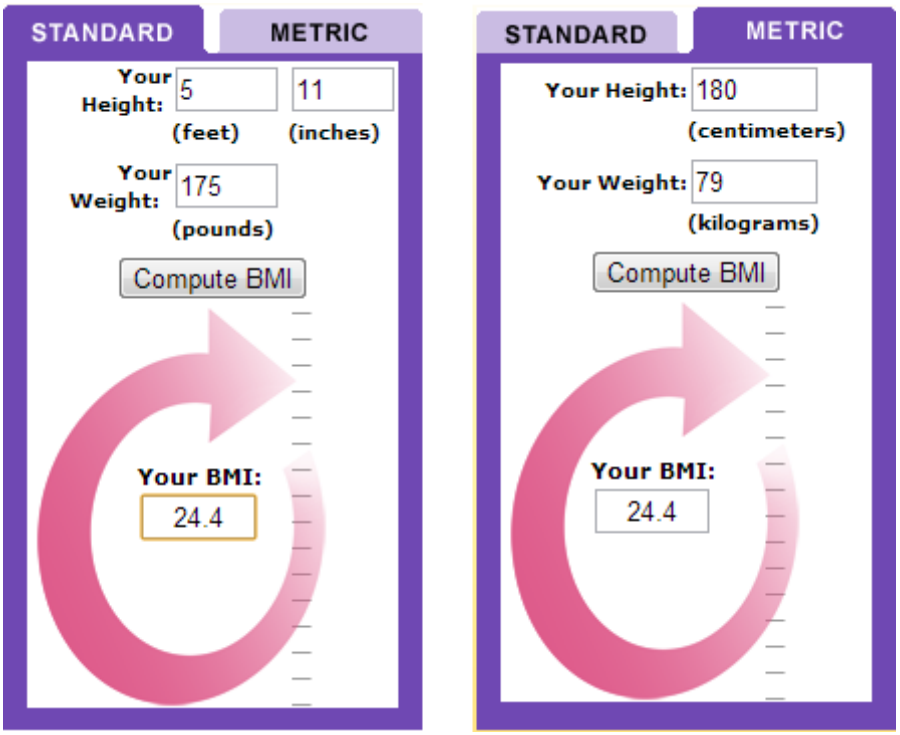
Homework 1

CMSY-199, Spring 2014

Upload your solution to the Canvas course website as a zip archive file prior to the start of class on Monday, February 17.

1. By recent estimates, two-thirds of the people in the United States are overweight and about half of those are obese. This causes significant increases in illnesses such as diabetes and heart disease. To determine whether a person is overweight or obese, you can use a measure called the body mass index (BMI). The United States Department of Health and Human Services provides a BMI calculator at www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm. Use it to calculate your own BMI.



2. The formulas for calculating BMI are

$$BMI = \frac{weightInPounds \times 703}{heightInInches \times heightInInches}$$

or

$$BMI = \frac{weightInKilograms}{heightInMeters \times heightInMeters}$$

Create a Java application called `BodyMassIndexCalculator` that reads the users weight in pounds and height in feet and inches (or, if you prefer, the users weight in kilograms and height in centimeters), then calculates and displays the users body mass index. Also, display the following information from the Department of Health and Human Services/National Institutes of Health so the user can evaluate his/her BMI:

```
BMI VALUES
Underweight: less than 18.5
Normal:      between 18.5 and 24.9
Overweight:  between 25 and 29.9
Obese:       30 or greater
```

[Note: In Chapter 2, you learned to use the `int` type to represent whole numbers. The BMI calculations when done with `int` values will both produce whole-number results. Use the `double` type presented in Section 3.7 to represent numbers with decimal points. When the BMI calculations are performed with `double` values, they'll produce numbers with decimal points - these are called floating-point numbers.]